LOW NOISE AMPLIFIER WITH CONSTANT INPUT IMPEDANCE

ABSTRACT OF THE DISCLOSURE

A low noise amplifier includes an input transistor, an inductor, and a current sink. The input transistor includes a gate, a drain, and a source, wherein the gate of the input transistor is operably coupled to receive an input radio frequency (RF) signal. The inductor includes a first node and a second node, wherein the first node of the inductor is operably coupled to a power supply and the second node of the inductor is operably coupled to the drain of the input transistor to provide an output of the low noise amplifier. The current sink includes a first node and a second node, wherein the first node of the current sink is operably coupled to the source of the input transistor and the second node of the current sink is operably coupled to a circuit ground, wherein a real component of input impedance of the low noise amplifier is substantially constant when the low noise amplifier is in the off mode as when the low noise amplifier is in the on mode.